REMARKS

This is in response to the Office Action that was mailed on December 1, 2004. Claims 1 and 2 are amended to recite preferred embodiments of the invention described for instance in the paragraph bridging pages 14-15 of the specification. No new matter is introduced by this Amendment. Entry of this Amendment — in order to place the application into condition for allowance or into better condition for appeal — is respectfully solicited. Claims 1-8 and 12-15 are pending in the application.

Enclosed herewith is a 37 CFR § 1.132 Declaration of Mr. Teruo KUBOTA. The Examiner is respectfully requested to review Mr. Kubota's declaration at this time, as comparative testing results set forth therein are believed to be material to a consideration of the patentability of the pending claims, and is referred to hereinbelow.

Claim Rejections – 35 USC § 103

Claims 1-8 and 12-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over WO94/02573 (Van Dijk). For reasons set forth by Applicants in previous responses and hereinbelow, the rejection is respectfully traversed.

Claim 12 requires, not only that the composition claimed comprises 15% or less by weight of sodium carbonate, but also that the total sum of the sodium carbonate and the alkali metal silicate in the composition claimed is 19% or more by weight of the detergent composition. This constitutes an additional feature of the compositions of the present invention, which is neither taught nor suggested by Van Dijk.

The Van Dijk disclosure fails to teach or suggest an important feature that characterizes all of the claims in the present application: Each of the claims herein requires that the high-density detergent composition has a total summation of a product of a mass base frequency Wi of each group of classified granules, which satisfies formula (A) or (B):

$$\Sigma(Wi \cdot Vi) \geq 95(\%) \qquad (A)$$

$$\Sigma(Wi \cdot Vi) \geq 97(\%) \qquad (B)$$

wherein the classifier comprises a series of sieves having sieve-openings respectively of 2000 μm, 1410 μm, 1000 μm, 710 μm, 500 μm, 355 μm, 250 μm, 180 μm, and 125 μm, and a receiver.

The base detergent granules in the present invention are subjected to particle size adjustment. To visualize the significance of particle size that characterizes the present invention, the Examiner's attention is respectfully drawn to Table 2 (specification page 41). A portion of the data from Table 2 is given below:

	Ex. 1	Ex. 2	Ex. 3
1410-2000 μm	0.00	0.01	0.00
1000-1410 μm	0.00	0.02	0.00
0710-1000 μm	0.00	0.06	0.00
0500-0710 μm	0.01	0.07	0.02
0355-0500 μm	0.13	0.16	0.07
0250-0355 μm	0.40	0.40	0.14
0180-0250 μm	0.40	0.18	0.28
0125-0180 μm	0.04	0.08	0.33

Thus, for instance, of the particles in the Example 1 composition, 1% have a size in the range of 500-710 μm, while 40% have a size in the range of 180-250 μm. In contrast, of the particles in the Example 2 composition, 7% have a size in the range of 500-710 μm, while only 18% have a size in the range of 180-250 μm.

As pointed out previously, Applicants are not claiming a detergent composition having "an average particle size of about 400 microns" or any other such broad-based particle size measurement. Instead, the present claims are directed to detergent compositions that have specified ***particle size profiles***. As explained in detail in the specification, these particle size profiles provide detergent compositions having unexpectedly superior properties.

Neither Van Dijk nor any other prior art of record teaches or suggests that varying particle size distribution in a detergent composition can have any impact on the performance of the composition. It goes without saying that the prior art does not lead those of ordinary skill in the art to the novel detergent compositions having the particle size profiles required by the present claims. It is also noted that the teachings and compositions of Van Dijk do not arrive at the advantageous effects that are associated with the present invention, which is clearly shown by way of comparative testing in the 37 CFR § 1.132 Declaration of Mr. Teruo KUBOTA being submitted herewith.

Declaration Under 37 CFR § 1.132

Applicants present herewith a Declaration under 37 CFR § 1.132 of Mr. Teruo KUBOTA, which establishes that significant and unexpected benefits are provided by the classification procedure recited in the claims of this application. In the Declaration, based detergent granules were prepared in accordance with Preparative Examples 1-4 of the application. Portions of the base detergent granules from each of Preparative Examples 1-4 were used as comparative examples in the Declaration. The "before classification" and the "after classification" particles were subjected to Evaluation 1 (dissolubility of detergent), Evaluation 2 (dispersibility of detergent), Evaluation 3 (detergency of detergent), and Evaluation 4 (hand-washing dissolution). The tests are described in detail on pages 26-29 of the specification. In Evaluation 1, particle size adjustment in accordance with the present invention improves washing machine dissolubility by at least two grades (the grades are explained on page 26 of the specification), from D to A in Example 1, from D to B in Example 5, from D to B in Example 8, and from C to A in Example 10. In Evaluation 4, particle size adjustment in accordance with the present invention improves hand-washing dissolubility. Specifically, the adjusted particle size profile granules of Example 1 take only 17% as much time to dissolve as do the unadjusted particles of Preparative Example 1. The adjusted particle size profile granules of Example 5 take only 32% as much time to dissolve as do the unadjusted particles of Preparative Example 2. The adjusted particle size profile granules of Example 8 take only 28% as much time to dissolve as do the unadjusted particles of Preparative Example 3. And the adjusted particle size profile granules of Example 10 take only 24% as much time to dissolve as do the unadjusted particles of Preparative Example 4. Accordingly, the Kubota Declaration under 37 CFR 1.132 provides clear evidence the classification process employed to manufacture the presently claimed compositions results provides those compositions with unexpected beneficially improved dissolution properties.

In Mr. Kubota's declaration, it is also reported that for comparison purposes a composition was prepared according to the teachings of Van Dijk WO94/02573 (*see pages 6-8 of Mr. Kubota's enclosed declaration*). More particularly, at page 8 of the Kubota declaration (*e.g., see the bottom table*) it is shown that in a comparison with particles prepared in accordance with

the teachings of Van Dijk WO 94/02573, the base detergent granules scored much more poorly overall than did the compositions of the present invention when subjected to evaluation tests as described in detail on pages 26-29 of the specification, *viz.*, Evaluation 1 (dissolubility of detergent), Evaluation 2 (dispersibility of detergent), Evaluation 3 (detergency of detergent), and Evaluation 4 (hand-washing dissolution).

	Base detergent granules (Van Dijk comparison)
Evaluation 1	D
Evaluation 2	IV
Evaluation 3	355
Evaluation 4 [sec]	34

As indicated in Mr. Kubota's enclosed declaration, the instant inventive compositions possessed unexpectedly advantageous properties when tested in the same manner using the same tests (which test results are summarized below in tabular form):

	Preparative Example 1 After classification (Example 1)	Preparative Example 2 After classification (Example 5)	Preparative Example 3 After classification (Example 8)	Preparative Example 4 After classification (Example 10)
Evaluation 1	A	B	B	A
Evaluation 2	I	II	II	II
Evaluation 3	54	48	52	52
Evaluation 4 [sec]	36	95	90	29

Accordingly, upon reviewing Mr. Kubota's declaration (and particularly the tables occurring at pages 3-5 and 8 thereof) it can be seen that when one follows the teachings of the cited Van Dijk reference, one does not obtain the unexpectedly advantageous properties that are associated with the instant invention as claimed.

SUMMARY AND CONCLUSION

The Examiner is erroneous in her argument near the bottom of page 3 of the Office Action that "a *prima facie* case of obviousness exists because the claimed ranges 'overlap or lie inside ranges disclosed by the prior art'." Van Dijk simply discloses, for example, a base powder with a bulk density of at least 600 g/l having less than 10% particles smaller than 150 microns and less than 10% particles bigger than 1700 microns. It is pointed out that the Examiner has the burden of proof when it comes to establishing a *prima facie* case of obviousness.

As shown in Mr. Kubota's enclosed 37 CFR § 1.132 declaration, one following the disclosure and teachings of the cited Van Dijk WO 94/02573 reference does not arrive at the present invention as claimed or the advantageous results that are associated thereby. Presumably the particles of Van Dijk have sizes that are within the range describing what would generally be recognized as a "bell-shaped-like curve" of a normal statistical distribution. Applicant's particle sizes, in contrast, have specified particle size profiles that are obtained by means of a classification process utilizing the multi-sieved classifier expressly recited in the claims. Thus, the particle size profiles recited in the present claims are not rendered obvious by the particle size distribution and/or teachings of the applied Van Dijk WO 94/02573 reference.

Moreover, the enclosed 37 CFR § 1.132 Declaration of Teruo Kubota establishes that the presently claimed — admittedly novel — detergent compositions provide unexpected beneficial properties, when compared with compositions prepared according to the teachings of the cited Van Dijk reference, thereby rebutting any possible *prima facie* case of obviousness.

If there are any outstanding issues in the present application, the Examiner is respectfully requested to contact Richard Gallagher (Reg. No. 28,781) at (703) 205-8008, so that further prosecution in the present application can be expedited towards allowance.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 CFR 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,
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